

Table 10. Summary of effects between the existing condition and SEIS alternatives.

	FEIS Alternative A (Existing Condition)	SEIS Alternatives 1a and 1b	SEIS Alternative 2	SEIS Alternative 3
Natural Soundscape	<p><u>Audibility, considering all vehicles, wheeled and oversnow¹:</u> Audible, but less than 10% of the time, on 200,700 ac. Audible more than 10% of the time on 107,400 ac. Audible more than 50% of the time on 26,500 ac.</p> <p><u>Average Noise Level²:</u> Exceeds 50dB at 100ft along 9 segments, or 144 miles of groomed road. Exceeds 10 dB over 4000 feet distant on 11 road segments. Is highest due to oversnow use from W. Entrance to Old Faithful (56 dB) and on Jackson Lake (58 dB - snowmobiles & snowplanes).</p>	<p><u>Audibility, all vehicles:</u> Audible less than 10% of the time on 199,100 ac. (-0%). Audible more than 10% of the time on 95,060 ac (-53%). Audible more than 50% of the time on 14,090 ac. (-47%). <u>Audibility, oversnow vehicles only:</u> Less than 10% of the time on 175,220 ac. More than 10% of the time on 78,140 ac. More than 50% of the time on 2,260 ac.</p> <p><u>Average Noise Level:</u> Does not exceed 50 dB at 100 ft on any road segment. Exceeds 10 dB over 4000 feet distant on 7 segments. Is highest due to oversnow use from W. Entrance to Old Faithful at 49 dB. Noise on Jackson Lake is eliminated.</p>	<p><u>Audibility, all vehicles:</u> Audible less than 10% of the time on 182,500 ac. (-9%). Audible more than 10% of the time on 124,800 acres (+16 %). Audible more than 50% of the time on 53,090 acres (+100%). <u>Audibility, oversnow vehicles only:</u> Less than 10% of the time on 158,700 ac. More than 10% of the time on 107,850 ac. More than 50% of the time on 41,260 ac.</p> <p><u>Average Noise Level:</u> Exceeds 50 dB at 100ft along 12 segments, or 172 miles of groomed road. Exceeds 10 dB over 4000 feet distant on 13 road segments. Is highest due to oversnow use from W. Entrance to Old Faithful at 55-56 dB, and West Thumb to Flagg Ranch at 55 dB. Jackson Lake is at 46 dB for fishing access</p>	<p><u>Audibility, all vehicles:</u> Audible less than 10% of the time on 175,700 ac. (-12%). Audible more than 10% of the time on 115,000 ac. (+7%) Audible more than 50% of the time on 36,270 acres (+37%). <u>Audibility, oversnow vehicles only:</u> Less than 10% of the time on 151,860 ac. More than 10% of the time on 98,110 ac. More than 50% of the time on 24,440 ac.</p> <p><u>Average Noise Level:</u> Exceeds 50 dB at 100ft along 8 segments, or 134 miles of groomed road. Exceeds 10 dB over 4000 feet distant on 11 road segments. Is highest due to oversnow use from W. Entrance to Old Faithful at 54-55 dB and West Thumb to Flagg Ranch at 54 dB. Noise on Jackson Lake is eliminated.</p>
Air Quality (NAAQS Parameters)	<p><u>Parkwide Total Emissions (tons per year):</u> CO=1,538 tpy, PM₁₀=11 tpy, NOx=19 tpy HC=476 tpy <u>West Yellowstone:</u> Maximum 1-hour CO is 32.2 ppm (MT std is 23 ppm); 98% contributed by snowmobiles. Maximum 24-hour PM₁₀ is 68.2 µgrams/m³ (MT std is 150), 99% contributed by snowmobiles. <u>West Entrance to Madison</u> Maximum 1-hour CO is 14.8 ppm (MT std is 23 ppm); 98.6% contributed by snowmobiles. Maximum 24-hour PM₁₀ is 33.7 µgrams/m³ (MT std is 150), 97.6% contributed by snowmobiles. <u>Flagg Ranch</u> Maximum 1-hour CO is 4.72 ppm; 72% contributed by snowmobiles. Maximum 24-hour PM₁₀ Ranch is 6.0 µgrams/m³), 99.3% contributed by snowmobiles.</p>	<p><u>Parkwide Total Emissions (tons/vr):</u> After full implementation, CO=479, PM₁₀=1.0, NOx=19.0, HC=63 <u>West Yellowstone:</u> Maximum 1-hour CO is 4.5 ppm (-86%) Maximum 24-hour PM₁₀ is 23.4 µgrams/m³ (-66%)</p> <p><u>W. Entrance to Madison</u> Maximum 1-hour CO is 1.15 ppm (-92%). Maximum 24-hour PM₁₀ is 5.4 µgrams/m³ (-84%)</p> <p><u>Flagg Ranch</u> Maximum 1-hour CO is 2.0 ppm (-58%) Maximum 24-hour PM₁₀ is 5.17 µgrams/m³ (-14%)</p>	<p><u>Parkwide Total Emissions(tons/vr):</u> After full implementation in 2004-05, CO=1411, PM₁₀=10, NOx=39, HC=428 <u>West Yellowstone:</u> Maximum 1-hour CO is 7.9 ppm (-75%). Maximum 24-hour PM₁₀ is 31.2 µgrams/m³ (-54%)</p> <p><u>W. Entrance to Madison</u> Maximum 1-hour CO is 2.4 ppm (-84%). Maximum 24-hour PM₁₀ is 5.4 µgrams/m³ (-84%)</p> <p><u>Flagg Ranch</u> Maximum 1-hour CO is 1.55 ppm (-67%) Maximum 24-hour PM₁₀ is 5.46 µgrams/m³ (-9%)</p>	<p><u>Parkwide Total Emissions (tons/vr):</u> After full implementation 2003-04, CO=694, PM₁₀=1.0, NOx=84, HC=80 <u>West Yellowstone:</u> Maximum 1-hour CO is 5.8 ppm (-82%). Maximum 24-hour PM₁₀ is 24.6 µgrams/m³ (-64%)</p> <p><u>West Entrance to Madison</u> Maximum 1-hour CO is 1.45 ppm (-90%). Maximum 24-hour PM₁₀ is 5.4 µgrams/m³ (-84%)</p> <p><u>Flagg Ranch</u> Maximum 1-hour CO is 0.77 ppm (-84%) Maximum 24-hour PM₁₀ is 5.04 µgrams/m³ (-16%)</p>
Visibility	<p><u>Staging and Destination Areas</u> Emissions cause local, perceptible visibility impairment near YNP W. Entrance, in and around the Old Faithful area, and at Flagg Ranch. <u>Oversnow Routes</u> There is perceptible visibility impairment along heavily used roadway segments under certain viewing conditions.</p>	<p><u>Staging & Destination Areas</u> Emissions would not cause local, perceptible visibility impairment near YNP W. Entrance, Old Faithful, or Flagg Ranch. <u>Oversnow Routes</u> Emissions would not cause perceptible visibility impairment along roadways. (These conclusions are from the FEIS for Alternative G.)</p>	<p><u>Staging & Destination Areas</u> Analysis not completed by DSEIS publication date <u>Oversnow Routes</u> Analysis not completed by DSEIS publication date</p>	<p><u>Staging & Destination Areas</u> Analysis not completed by DSEIS publication date <u>Oversnow Routes</u> Analysis not completed by DSEIS publication date</p>
Socioeconomic Effects	<p><u>Economic Indices:</u> 1996 total economic output in MT and WY, ID: \$109.5 billion and total employment of 1.5 million jobs. 1996 total economic output in the 5-county GYA area: \$5.7 billion and 97,000 jobs. Gateway communities of Gardiner MT, West Yellowstone MT, Cody WY, Jackson WY: Status quo short term.</p> <p><u>Social Indices:</u> 67% of survey respondents agree that there should be motorized winter access to YNP. 61% of respondents also are concerned about the disturbance to wildlife in the winter. Curent winter visitors are those who are attracted by available opportunities, which at present are dominated by snowmobiling. Visitors who expect quiet nonmotorized experiences have been displaced from the parks, or their expectations are not met.</p> <p>The existing winter access policy is not preferred by the public in the region or the nation.</p>	<p><u>Economic Impacts:</u> 3 state region: - \$18.4 million (< -1%) and -471 jobs (< -1%) 5-county GYA area: - \$21.1 million (< -1%) and -499 jobs (< -1%). W. Yellowstone: winter economy down 33% short term, year round economy would decline by 8% short term (less than the annual growth). No measurable economic impact on other gateway communities.</p> <p><u>Social Impacts:</u> Motorized oversnow access is provided in all areas. Mode of access is changed to snowcoach. A majority of local residents agree that snowmobiles adversely impact the parks and should be limited. Loss of opportunities to snowmobilr may shift participation rates to other winter activities, offseting economic losses. A majority of regional and national respondents favor snowcoach access over snowmobile. This alternative would likely be favored in a regional or national forum..</p>	<p><u>Economic Impacts:</u> 3 state region: maximum loss of \$6.5 million (< -1%) and 159 jobs (< -1%). 5-county GYA area: maximum loss of \$5.8 mill. (< -1%) and 136 jobs (< -1%) West Yellowstone: winter economy would decline by a maximum of 9% short term, year round economy would decline by < 8% short term..No measurable economic impact on other gateway communities.</p> <p><u>Social Impacts:</u> Motorized oversnow access is provided in all areas. Mode of access is a mix of snowmobile and snowcoach. A majority of local residents agree that snowmobiles adversely impact the parks and should be limited. A minor decrease in opportunities to snowmobile from W. Yellowstone may shift participation to other gateways. Replacement behaviors not likely. A majority of regional and national respondents favor snowcoach access over snowmobile. This alternative would likely not be favored in a regional or national forum.</p>	<p><u>Economic Impacts</u> 3 state region: maximum loss of \$12.3 million (< -1%) and 299 jobs (< -1%). 5-county GYA area: maximum loss of \$11.1 ml. (<-1%) and 262 jobs (<-1%) West Yellowstone: winter economy would decline by a maximum of 17.6% short term, year round economy would decline by < 8% short term.No measurable economic impact on other gateway communities.</p> <p><u>Social Impacts:</u> Motorized oversnow access is provided in all areas. Mode of access is a mix of snowmobile and snowcoach. A majority of local residents agree that snowmobiles adversely impact the parks and should be limited. A minor decrease in opportunities to snowmobile from W. Yellowstone may shift participation to other gateways. Replacement behaviors not likely A majority of regional and national respondents favor snowcoach access over snowmobile. This alternative would likely not be favored in a regional or national forum.</p>

¹ Audibility numbers reported from the SEIS effects analysis, using quiet background conditions. The analysis also reports audibility considering average background conditions.

² Sound levels reported from the SEIS effects analysis, using quiet background conditions. The analysis also reports sound levels considering average background conditions.

Table 10. Summary of effects between the existing condition and SEIS alternatives.

	FEIS Alternative A (Existing Condition)	SEIS Alternatives 1a and 1b	SEIS Alternative 2	SEIS Alternative 3
Wildlife-Ungulates	<p>Effects of groomed surfaces on animal movements and population dynamics – unknown to what extent any beneficial effects outweigh negative effects.</p> <p>Displacement effects — minor to moderate, adverse, and short-term.</p> <p>Risk of collisions with snowmobiles — negligible, adverse, and short-term.</p>	<p>Fewer groomed surfaces in GTNP and JDR, therefore related effects less than in A. Same as A for YNP.</p> <p>Displacement effects < than A due to mass transit; fewer vehicles using groomed surfaces.</p> <p>Risk of collision with snowmobiles < than A due to prohibition on snowmobiles.</p>	<p>Groomed surfaces — same as A.</p> <p>Displacement effects — same as A.</p> <p>Risk of collisions with snowmobiles – same as A; effects may be mitigated by slower speed limits and the prohibition on nighttime travel from 8 p.m. to 7:30 a.m. (8:30 a.m. at the W. Entrance).</p>	<p>Groomed surfaces — same as A.</p> <p>Displacement effects — same as A; effects are mitigated by requiring snowmobilers be accompanied by NPS permitted guides.</p> <p>Risk of collisions with snowmobiles – same as A; effects may be mitigated by the prohibition on nighttime travel from 8 p.m. to 7:30 a.m. (8:30 a.m. at the W. Entrance).</p>
Health and Safety	<p><u>Safety</u> Adverse, minor effects to visitor and employee safety from the W. Entrance to Old Faithful and on the CDST. Adverse, negligible effects on less heavily traveled routes. Adverse, minor to moderate effects on visitors who use the East Entrance.</p> <p><u>Health</u> Where high levels of NAAQS pollutants occur, employees and visitors who are susceptible to respiratory problems would likely be affected. High levels occur at times and places where large numbers of oversnow vehicles stage for entry into the parks.</p>	<p><u>Safety</u> Beneficial, major and long term effects due to the elimination of snowmobiles.</p> <p><u>Health</u> High levels of NAAQS pollutants are not likely to occur. Employees and visitors who are susceptible to respiratory problems would likely not be affected.</p>	<p><u>Safety</u> Same as current condition but effects may be mitigated by the prohibition on travel from 8:00 P.M to 7:30 A.M. (8:30 A.M. through the W. Entrance), and reduced speed limits.</p> <p><u>Health</u> Where high levels of NAAQS pollutants occur, employees and visitors who are susceptible to respiratory problems would likely be affected, though to a lesser degree than in Alternative A, existing condition. High levels are likely to occur at times and places where large numbers of oversnow vehicles stage for entry into the parks. Though machines produce lower levels of pollutants, greater numbers of machines could offset the gain, relative to A.</p>	<p><u>Safety</u> Adverse, negligible to minor effects from the W. Entrance to Old Faithful. Adverse, negligible effects on the CDST from Colter Bay to Flagg Ranch due to the elimination of the shared corridor. Other effects same as current condition but effects may be mitigated by the prohibition on travel from 8:00 P.M to 7:30 A.M. (8:30 A.M. through W. Entrance) and mandatory use of guides.</p> <p><u>Health</u> Where high levels of NAAQS pollutants occur, employees and visitors who are susceptible to respiratory problems would likely be affected, though to a lesser degree than in Alternative A or Alternative 2.</p>
Visitor Access	Existing access and use defines the baseline condition for park visitation. Access is defined by travel corridors by which visitors arrive in the Greater Yellowstone Area, the gateways they use to enter the parks, the mode of transport used to enter and travel about the parks, and the levels of visitation that occur, on the average, by gateway.	These alternatives would provide access by oversnow motorized means through existing gateways at historic visitation levels. The mode of access would change from a mix of snowcoach and snowmobile to snowcoach only.	This alternative would provide access by oversnow motorized means through existing gateways. The mode of access would remain a mix of snowcoach and snowmobile. Historic use levels by snowmobile access at all gateways would be preserved. Capped use at West Yellowstone would allow current average use on a daily basis - current peak use would not be allowed. Other gateways would allow increased use by snowmobile.	This alternative would provide access by oversnow motorized means through existing gateways. The mode of access would remain a mix of snowcoach and snowmobile. Historic use levels by snowmobile access at gateways would be preserved except for that at West Yellowstone. Increased snowcoach access would be available at West Yellowstone to provide for historic visitation levels.
Visitor Experience	<p><u>Effects On All Three Park Units</u></p> <ul style="list-style-type: none">•Little or no operational change would occur. Visitation would be influenced by the method of transportation available to visitors.•For visitors who prefer to visit the parks via snowmobile, the visitor experience would continue to be highly satisfactory.•Encounters with park wildlife and scenery would continue to be primary attractions, consequently the overall satisfactio9n of current winter visitors would remain high.•Current levels of snowmobile emissions and sound levels would continue to detract from critical characteristics of the desired winter experience for many visitors resulting in direct short-term major adverse impacts on their visitor experience.•The perceived unsafe behavior of others and the occurrence of visitor conflicts would continue to have direct short-term minor to moderate adverse effects on the experience of some users.•Current motorized use would continue to deter some user groups from visiting or returning to the parks.	<p><u>Effects On All Three Park Units</u></p> <ul style="list-style-type: none">•Adaptive management provisions for long term protection of park resources may result in area closures, resulting in local direct adverse impacts on visitor experience.•The reduction in emissions and sound under this alternative would result in direct major beneficial improvements to the experiences of park visitors.•Opportunities to appreciate clean air would be greatly improved. Where oversnow motorized use occurs, via snowcoach, quiet and clean air would be facilitated by improved motorized technology.•Opportunities to view wildlife and scenery would be the same as in A.•Major beneficial changes relating to safety by eliminating the possibility of snowmobile related motor vehicle accidents. Elimination of snowmobiles would result in major adverse impacts to the experiences of visitors in this user group. <p><u>Effects on Grand Teton/Parkway</u></p> <ul style="list-style-type: none">•Negligible to minor adverse impacts on visitor experience relating to wildlife and scenery viewing due to the elimination of motorized travel on the frozen surface of Jackson Lake. •Opportunities to view wildlife would be improved for nonmotorized users of these areas.•Major beneficial changes relating to safety by eliminating snowmobile-related motor vehicle accidents, and wheeled-vehicle accidents from Colter Bay to Flagg Ranch.•Major adverse impact for those who wish to ride snowmobiles or snowplanes.	<p><u>Effects On All Three Park Units</u></p> <ul style="list-style-type: none">•Adaptive management provisions for long term protection of park resources may result in area closures, resulting in local direct adverse impacts on visitor experience.•Opportunities to appreciate clean air would be increased from alternative A providing a minor to moderate beneficial effect. Where oversnow motorized use occurs and clean air would be facilitated by improved motorized technology.•Due to the numbers of snowmobiles allowed in the parks on a daily basis, there would be a decline from current condition (FEIS alternative A) relative to opportunities for quiet and solitude. <p><u>Effects on Yellowstone</u></p> <ul style="list-style-type: none">•Snowmobile users would experience little change in opportunities to view wildlife and scenery from FEIS alternative A. However, the quality of those experiences would be moderately and adversely affected for some visitors, particularly on peak use days.•There would be few changes in the effects relating to safety from alternative A. <p><u>Effects on Grand Teton/Parkway</u></p> <ul style="list-style-type: none">•Negligible to minor adverse impacts on visitor experience relating to wildlife and scenery viewing would occur because of the elimination of motorized travel on the frozen surface of Jackson Lake. Fisherman however would not be affected.•Moderate improvements to safety by eliminating the possibility of snowmobile-related motor vehicle accidents, and wheeled-vehicle accidents on the road segment from Moran Junction to Flagg Ranch.	<p><u>Effects On All Three Park Units</u></p> <ul style="list-style-type: none">•Adaptive management provisions: same effects as shown in other alternatives.•Snowmobile users would experience little change in opportunities to view wildlife and scenery from alternative A as described in the FEIS. There would be moderate and beneficial improvements in the quality of those experiences for some visitors.•Opportunities to appreciate clean air, quiet and solitude would be increased from FEIS alternative A and decreased when compared to SEIS alternatives 1 and 2. Where oversnow motorized use occurs quiet and clean air would be facilitated by improved motorized technology and fewer vehicles. <p><u>Effects on Yellowstone</u></p> <ul style="list-style-type: none">•The use limit of 330 snowmobiles entering from the West would result in moderate to major adverse effects on approximately 300 snowmobile enthusiasts (per day) who find entering from the West Entrance essential to their park experience.•The use limit of 330 would result in moderate to major improvements to the groomed surface on that road segment. •Moderate improvements to safety because of the emphasis on guided tours and snowcoaches under this alternative. <p><u>Effects on Grand Teton/Parkway</u></p> <ul style="list-style-type: none">•Negligible to minor adverse impacts on visitor experience relating to wildlife and scenery viewing would occur because of the elimination of motorized travel on the frozen surface of Jackson Lake.•Moderate adverse effects relating to safety by continuing the possibility of snowmobile-related motor vehicle accidents, and wheeled-vehicle accidents on the road segment from Moran Junction to Flagg Ranch.